

to give adequate powers and functions to the Panchayats as envisaged in Part IX of the Constitution. Since the existing laws are adequate for the purpose, amendment in the law is not proposed.

#### **Development of non-Conventional Energy Sources**

3665. SHRI RAJENDRA AGNIHOTRI : Will the Minister of NON-CONVENTIONAL ENERGY SOURCES be pleased to state :

(a) whether any assessment has been made for the development of non-conventional energy sources in the country and to explore their further possibilities;

(b) if so, the details in this regard, State-wise; and

(c) the achievements made so far in this direction?

THE MINISTER OF STATE OF THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (CAPT. JAI NARAYAN PRASAD NISHAD) : (a) and (b) Yes, Sir. Ministry has taken steps for assessing the potentials of various non-conventional energy sources in the country. Potentials of improved chulhas and biogas plants which have been estimated State-wise, are given in the enclosed Statement-I. Broad estimates of potentials of various non-conventional energy sources which have been made on country-wide basis, are given in the enclosed Statement-II.

(c) The State-wise cumulative achievements under various non-conventional energy programmes, upto 31.3.97 are given in the enclosed Statement-III.

#### **Statement I**

##### *State-wise potentials for Biogas and Improved Chulha in the country*

Sl. No.	States/UTs	Biogas (Nos. in lakhs)	Improved Chulha (Nos. in lakhs)
1	2	3	4
1.	Andhra Pradesh	10.65	97.08
2.	Arunachal Pradesh	0.075	1.50
3.	Assam	3.77	36.00
4.	Bihar	9.39	123.83
5.	Goa	0.08	1.17
6.	Gujarat	5.54	50.72
7.	Haryana	3.00	20.61
8.	Himachal Pradesh	1.25	8.53
9.	Jammu & Kashmir	1.28	11.75
10.	Karnataka	6.80	60.76
11.	Kerala	1.50	40.73

1	2	3	4
12.	Madhya Pradesh	14.91	101.58
13.	Maharashtra	8.97	96.50
14.	Manipur	0.38	2.64
15.	Meghalaya	0.24	2.54
16.	Mizoram	0.022	0.73
17.	Nagaland	0.067	2.01
18.	Orissa	6.05	54.55
19.	Punjab	4.11	25.38
20.	Rajasthan	9.15	55.54
21.	Sikkim	0.073	0.73
22.	Tamil Nadu	6.15	80.16
23.	Tripura	0.28	4.65
24.	Uttar Pradesh	20.21	187.45
25.	West Bengal	6.95	98.72
26.	Andaman & Nicobar	0.022	0.40
27.	Chandigarh	0.014	0.66
28.	Dadra & Nagar Haveli	0.02	0.25
29.	Daman & Diu	-	0.10
30.	Delhi	0.12	9.06
31.	Lakshadweep	-	0.10
32.	Pondicherry	0.043	0.59

#### **Statement II**

##### *Country-wide potentials of various non-conventional energy sources*

Source/Technology	Estimated Potential
Biogas Plants	12 Million Nos.
Improved Chulha	120 Million Nos.
Biomass/Bioenergy	17,000 MW
Small Hydro Power	10,000 MW
Wind Power	20,000 MW
Solar Energy	20 MW/KM <sup>2</sup>
Ocean Energy	78,000 MW
Urban & Industrial Waste	1700 MW

**Statement III (A)**

*State-wise cumulative Achievements upto March, 1997 under programmes on Biogas, Improved Chulha and Biomass Gasifiers.*

Sl. No.	State/UT	Biogas Plants (Nos.)	Improved Chulhas (Lakh Nos.)	Biomass Gasifiers (KW)
1	2	3	4	5
1.	Andhra Pradesh	216314	20.85	6004
2.	Arunachal Pradesh	306	0.31	180
3.	Assam	23425	2.59	23
4.	Bihar	97189	8.96	20
5.	Goa	2600	1.05	22
6.	Gujarat	301282	9.65	3596
7.	Haryana	32765	8.46	964
8.	Himachal Pradesh	39326	5.97	7
9.	Jammu & Kashmir	1493	3.19	120
10.	Karnataka	214679	11.27	2329
11.	Kerala	49869	6.23	615
12.	Madhya Pradesh	133043	22.70	4689
13.	Maharashtra	594014	17.47	2312
14.	Manipur	1220	0.57	
15.	Meghalaya	449	0.12	
16.	Mizoram	1329	0.26	
17.	Nagaland	658	0.13	
18.	Orissa	132318	12.79	62
19.	Punjab	37016	9.12	660
20.	Rajasthan	61376	22.48	218
21.	Sikkim	1807	0.46	
22.	Tamil Nadu	189452	19.80	433
23.	Tripura	675	0.20	
24.	Uttar Pradesh	291689	30.22	511
25.	West Bengal	113101	10.25	500
26.	Andaman & Nicobar	125	0.28	167

1	2	3	4	5
27.	Chandigarh	97	0.19	
28.	Dadra & Nagar Haveli	165	0.11	
29.	Daman & Diu		0.01	
30.	Delhi	671	2.42	74
31.	Lakshadweep		0.05	
32.	Pondicherry	539	0.27	
Total		25,38,992	228.43	23,506

**Statement III (B)**

*State-wise Cumulative Installed Capacity of Small Hydro Power (Upto-3 MW Capacity) and Wind Power Projects upto 31.03.1997*

Sl. No.	State	Small Hydro Power (MW)	Wind Power (MW)
1.	Andhra Pradesh	7.01	54.290
2.	Arunachal Pradesh	20.15	-
3.	Assam	2.20	-
4.	Bihar	0.04	-
5.	Goa	-	-
6.	Gujarat	2.00	146.810
7.	Haryana	0.20	-
8.	Himachal Pradesh	9.49	-
9.	Jammu & Kashmir	4.37	-
10.	Karnataka	10.10	5.845
11.	Kerala	3.52	2.025
12.	Madhya Pradesh	3.25	9.590
13.	Maharashtra	4.32	5.370
14.	Manipur	4.10	-
15.	Meghalaya	1.51	-
16.	Mizoram	5.36	-
17.	Nagaland	3.17	-
18.	Orissa	1.26	1.100
19.	Punjab	3.90	-
20.	Rajasthan	4.30	-

1	2	3	4
21. Sikkim	9.25	-	
22. Tamil Nadu	4.75	676.155	
23. Tripura	1.01	-	
24. Uttar Pradesh	31.04	-	
25. West Bengal	7.98	-	
26. Andaman & Nicobar	-	-	
27. Others	-	0.465	
Total	144.28	901.650	

**Statement III (C)**

*State-wise Cumulative No. of Blocks Covered under Integrated Rural Energy Programme (IREP), Renewable Energy Park Projects and Urjagram Projects upto 31.3.1997*

Sl. No.	State/UT	IREP Block (Nos.)	Energy Park Projects (Nos.)	Urjagram Projects (Nos.)
1.	Andhra Pradesh	32	1	6
2.	Arunachal Pradesh	10	-	-
3.	Assam	19	-	1
4.	Bihar	16	-	9
5.	Goa	5	-	-
6.	Gujarat	25	-	22
7.	Haryana	29	-	5
8.	Himachal Pradesh	41	-	1
9.	Jammu & Kashmir	16	-	2
10.	Karnataka	31	-	3
11.	Kerala	44	-	-
12.	Madhya Pradesh	61	1	22
13.	Maharashtra	37	-	61
14.	Manipur	12	-	-
15.	Meghalaya	15	-	-
16.	Mizoram	9	-	-
17.	Nagaland	6	-	-

1	2	3	4
18. Orissa	16	-	17
19. Punjab	35	-	6
20. Rajasthan	32	-	8
21. Sikkim	4	-	-
22. Tamil Nadu	21	-	34
23. Tripura	6	-	2
24. Uttar Pradesh	88	1	51
25. West Bengal	30	-	6
26. Andaman & Nicobar	5	-	-
27. Chandigarh	1	-	-
28. Dadra & Nagar Haveli	1	-	-
29. Daman & Diu	1	-	-
30. Delhi	5	1	-
31. Lakshadweep	1	-	-
32. Pondicherry	6	-	-
Total	660	4	256

**Statement III (D)**

*Cumulative State-wise Installation of Solar Photovoltaic (SPV) Systems upto 31.3.1997*

Sl. No.	State/ Agency	SLS (Nos.)	HLS (Nos.)	SL CL/TVS (Nos.)	PP (Nos./ KWp)	
1	2	3	4	5	6	7
1.	Andhra Pradesh	2932	780	6114	4	4/17.60
2.	Arunachal Pradesh	720	52	1518	14	3/7.90
3.	Assam	98	764	175	43	2/2
4.	Bihar	619	6	20414	33	-
5.	Goa	30	31	-	4	2/1.70
6.	Gujarat	1564	370	4100	51	3/14
7.	Haryana	689	69	7940	68	5/24.30
8.	Himachal Pradesh	504	2934	8500	11	-

1	2	3	4	5	6	7
9.	Jammu & Kashmir	919	3761	2725	1	-
10.	Karnataka	441	-	300	14	-
11.	Kerala	598	1056	21715	43	4/4.74
12.	Madhya Pradesh	5427	100	6248	46	2/9
13.	Maharashtra	2941	72	3792	64	3/6.44
14.	Manipur	351	-	767	-	5/5
15.	Meghalaya	588	230	2155	-	13/30.52
16.	Mizoram	233	1901	560	4	-
17.	Nagaland	271	8	-	3	1/6
18.	Orissa	2068	256	1967	58	5/33.91
19.	Punjab	60	-	682	4	2/2
20.	Rajasthan	5545	1778	4500	115	24/162.15
21.	Sikkim	93	31	196	6	-
22.	Tamil Nadu	1940	50	2086	38	3/26
23.	Tripura	248	798	238	194	9/25
24.	Uttar Pradesh	470	35,585	28,250	50	63/419
25.	West Bengal	926	1308	2120	5	4/42.1
26.	A & N Islands	315	390	260	2	25/129.12
27.	Chandigarh					
28.	Dadar & Nagar Haveli					
29.	Daman & Diu					
30.	Delhi	371	-	4508	-	1/5
31.	Lakshadweep	564	-	460	-	1/25
32.	Pondicherry	2	-	215	-	-
Total		31.527	523301,31,190	875	184/999	

SLS Street Lighting Systems  
 HLS Home (domestic) Lighting Systems  
 SL Solar lanterns  
 CL/TVS Community Light/TV Systems  
 PP Power Plants  
 KWp Kilo Watt Peak

**Statement III (E)**

*Cumulative State-wise Solar Photovoltaic (SPV) Water Pumping Systems Installed upto 31.3.1997*

Sl. No.	State/UT	No. of Pumps
1.	Andhra Pradesh	380
2.	Assam	45
3.	Andaman & Nicobar	05
4.	Bihar	92
5.	Chandigarh	07
6.	Dadra & Nagar Haveli	01
7.	Delhi	42
8.	Gujarat	19
9.	Goa	14
10.	Haryana	17
11.	Himachal Pradesh	1
12.	Jammu & Kashmir	15
13.	Karnataka	103
14.	Kerala	241
15.	Madhya Pradesh	15
16.	Maharashtra	114
17.	Manipur	01
18.	Mizoram	28
19.	Orissa	01
20.	Punjab	89
21.	Pondicherry	14
22.	Rajasthan	146
23.	Tamil Nadu	453
24.	Uttar Pradesh	66
25.	West Bengal	44
Total		1953